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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,025	11/09/2000	Liran Brecher	TI-29893	6766

7590 06/30/2004  
Jackson Walker, L.L.P.  
Suite 600  
2435 North Central Expressway  
Richardson, TX 75080

EXAMINER

CORRIELUS, JEAN B

ART UNIT	PAPER NUMBER
2631	7

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/711,025

Applicant(s)

BRECHER ET AL.

Examiner

Jean B Corrielus

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20, 22-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 and 26-31 is/are allowed.
- 6) ☒ Claim(s) 20 and 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. The indicated allowability of claim 20 is withdrawn in view of the previously applied reference(s) to Murakami. Rejections based on the previously applied reference(s) follow.

### ***Claim Objections***

2. Claims 26-31 are objected to because of the following informalities: Claim 26 recites a step or limitation(s) in lines 3-4, however, there is no connection between such a step and subsequently recited step(s) or limitation(s). The same comment applied to claim 29, lines 8-9. Claims 27, 28 30 and 31 are likewise objected to because of their dependency to objected claims 26 and 29. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami US patent No. 5,175,747.

Murakami discloses a method and apparatus (fig. 1) having a feed forward digital section 200 having an input 1 for receiving digital transmission bursts; the feedforward section 200 defined a plurality of feedforward coefficients ( $C_i(n)$ ); a decision element 70

having an input coupled to said feedforward digital filter for deciding what values are included in the received signal, said decision element having an output for providing a signal indicative of the decided symbols; a feed back digital section 300 having an input coupled to the output of the decision element 70 for filtering said signal indicative of the decided symbols, said feedback section 300 having an output for providing a filtered signal; said output coupled to said input of said decision element, said feedback filter defined a plurality of feedback coefficients ( $D_i(n)$ ); and a coefficient determiner (100 and 101) coupled to said FF and FB filters using a first coefficient determination algorithm 100 to determine respective first values for said coefficients and using a second coefficient determination algorithm 101 to determine respective second values for said coefficients, wherein the first and second algorithms differ from one another see col. 5, line 66-col. 6, line 1 and said coefficient determiner having an output coupled to said feedforward digital filter and said feedback filter for outputting said first and said second values of said filters see col. 6, lines 12-16 and lines 42-45. Note that at col. 6, lines 1-31 that Murakami teaches that the first algorithm A acts only on a portion of the coefficient not on the remainder see fig. 2

As per claim 22, at col. 5, line 66- col. 6, line 1, Murakami teaches that the two algorithm are different from each other given that, the algorithms inherently has to differ in computation complexity.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami.

As applied to claim 20 above, Murakami discloses every feature of the claimed invention but does not explicitly teach the use of the least square it only teaches at col. 9, lines 13-14 that other adaptive algorithm can be used. Given the fact that Least Squares Algorithm is a well known adaptive algorithm, it would have been obvious to one skill in the art at the time of the invention to incorporate such an algorithm in Murakami in order to take advantage of its fast convergence property. As per claim 24 the second algorithm is a LMS algorithm see col. 9, line 14.

***Allowable Subject Matter***

7. Claims 1-19 and 26-31 are allowed. Note claim must be amended if necessary to overcome any objection sets forth above.

**8. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9314

(for informal or draft communications, please label "PROPOSED"  
or "DRAFT")

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is (703) 305-4023. The examiner can normally be reached on Monday-Thursday from 7:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour, can be reached on (703) 306-3034.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.

  
Jean B. Corrielus

Primary Examiner

TC-2600 6/25/04